

ATTORNEY DOCKET NO. 19141.0001  
SERIAL NO. 09/036,053

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Please amend the captioned application as follows:

AUG 24 2000

IN THE CLAIMS

GROUP 3300

Cancel claims 3, 4, 8-20, 29, 44 and 45 without prejudice or disclaimer.

Please amend claims 1, 5, 6, 7, 21 and 48 as follows:

C1

1. (Twice Amended) A method for enhancing the flux rate of a substance through a porated tissue, comprising the step of delivering an effective amount of a flux enhancer into the tissue through at least one micropore made into an outer layer of the tissue so that the flux enhancer acts on tissue structures in or beneath the outer layer thereby increasing the flux rate of a substance through the tissue, wherein the step of delivering the flux enhancer comprises steps of positioning a quantity of flux enhancer adjacent the porated tissue and applying sufficient energy to the quantity of flux enhancer to vaporize at least a portion of the quantity of flux enhancer thereby releasing at least a portion of the quantity of flux enhancer into the tissue through the at least one micropore.

3 5 (Amended) The method of claim [4] 1, wherein the step of applying sufficient energy to the quantity of flux enhancer comprises introducing a heated element into the quantity of flux enhancer.

C2

4 6 (Amended) The method of claim [3] 1, wherein the step of positioning a quantity of the flux enhancer at the site comprises placing a carrier device having a reservoir containing the quantity of flux enhancer adjacent the porated tissue, and wherein the step of [releasing at least a portion of the quantity of flux enhancer into the tissue through the at least one micropore comprises] applying sufficient energy comprises applying energy [onto] to the carrier device to vaporize at least a portion of the quantity of flux enhancer.

8 7 [The method of claim 1,] A method for enhancing the flux rate of a substance through a porated tissue, comprising the step of delivering an effective amount of a flux enhancer into the tissue through at least one micropore made into an outer layer of the tissue so that the flux enhancer acts on tissue structures in or beneath the outer

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C2  
layer thereby increasing the flux rate of a substance through the tissue, wherein the flux enhancer contains ammonia.

C3  
21. (Amended) [A] The method [of delivering a drug to tissue through a biological membrane comprising the steps] of claim [9] 46, and further comprising the step of [(c)] introducing a drug through the at least one micropore.

C4  
48. (Amended) The method of claim [14] 46, wherein the steps of porating and delivering comprise applying a sufficient amount of electromagnetic energy onto an energy absorbing layer placed adjacent the surface of the biological membrane, wherein the energy absorbing layer is treated with said effective amount of flux enhancer such that said reservoir is incorporated in said energy absorbing layer.

Please add the following new claims 49-79:

49. The method of claim 1, and further comprising delivering a quantity of a drug through the at least one micropore.

50. The method of claim 4, and further comprising delivering a drug contained in the reservoir through the at least one micropore.

51. The method of claim 7, wherein the step of delivering the flux enhancer comprises inserting a probe carrying the effective amount of flux enhancer into the tissue.

52. The method of claim 7, wherein the step of delivering the flux enhancer comprises positioning a quantity of flux enhancer adjacent the porated tissue and

releasing at least a portion of the quantity of flux enhancer into the tissue through the at least one micropore.

C5  
53. The method of claim 52, and further comprising the step of applying sufficient energy to the quantity of flux enhancer to vaporize at least a portion of the quantity of flux enhancer.

54. The method of claim 52, wherein the step of applying energy to the quantity of flux enhancer comprises introducing a heated element into the quantity of flux enhancer.

55. The method of claim 52, wherein the step of positioning a quantity of the flux enhancer at the site comprises placing a carrier device having a reservoir containing

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the quantity of flux enhancer adjacent the porated tissue, and wherein the step of releasing at least a portion of the quantity of flux enhancer into the tissue through the at least one micropore comprises applying energy onto the carrier device to vaporize at least a portion of the quantity of flux enhancer.

14-56. The method of claim 55, and further comprising the step of delivering a drug contained in the reservoir through the at least one micropore.

15-57. The method of claim 56, and further comprising delivering a drug into the tissue through the at least one micropore.

20-58. The method of claim 46, wherein the micropore extends to a selected depth into or through the biological membrane.

21-59. The method of claim 46, wherein the steps of porating and delivering comprise inserting a probe carrying a quantity of flux enhancer into the biological membrane.

22-60. The method of claim 59, wherein the step of inserting a probe comprises inserting a heated probe into the biological membrane.

23-61. The method of claim 46, wherein the step of delivering an effective amount of a flux enhancer comprises the steps of positioning a reservoir containing a quantity of flux enhancer adjacent the surface of the biological membrane, and releasing at least a portion of the quantity of flux enhancer from the reservoir into the at least one micropore.

24-62. The method of claim 61, and further comprising the step of applying sufficient energy to the reservoir of flux enhancer to vaporize at least a portion of the quantity of flux enhancer.

25-63. The method of claim 62, wherein the steps of porating the biological membrane and releasing at least a portion of the flux enhancer comprise the step of applying a sufficient amount of electromagnetic energy onto an energy absorbing portion adjacent the reservoir to heat the energy absorbing portion to a temperature sufficient to form the at least one micropore and to vaporize at least a portion of the reservoir of flux enhancer.

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64. The method of claim 61, and further comprising delivering a drug contained in the reservoir through the at least one micropore.

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65. The method of claim 62, wherein the steps of porating the membrane and releasing at least a portion of the flux enhancer comprise the step of introducing a heated element through the reservoir and into the membrane.

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66. The method of claim 46, and further comprising the step of applying ultrasonic energy to the tissue to draw an interstitial fluid containing the analyte outwardly through the at least one micropore.

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67. The method of claim 46, and further comprising the step of applying suction to the tissue to draw interstitial fluid comprising the analyte outwardly through the at least one micropore.

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68. The method of claim 46, wherein the step of porating comprises measuring an impedance between an electrically heated probe that creates the micropore and an electrode spaced therefrom to control a depth of the micropore based on the impedance.

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69. The method of claim 63, wherein the step of measuring an impedance comprises measuring a complex impedance between the electrically heated probe and the electrode.

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70. The method of claim 47, wherein the micropore extends to a selected depth into or through the biological membrane.

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71. The method of claim 47, and further comprising the step of applying ultrasonic energy to the tissue to draw an interstitial fluid containing the analyte outwardly through the at least one micropore.

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72. The method of claim 47, and further comprising the step of applying suction to the tissue to draw interstitial fluid comprising the analyte outwardly through the at least one micropore.

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73. The method of claim 47, wherein the step of porating comprises measuring an impedance between an electrically heated probe that creates the micropore and an electrode spaced therefrom to control a depth of the micropore based on the impedance.

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74. The method of claim 73, wherein the step of measuring an impedance comprises measuring a complex impedance between the electrically heated probe and the electrode.

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75. The method of claim 47 and further comprising the step of introducing a drug through the at least one micropore.

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76. The method of claim 47 and further comprising collecting a sample of an analyte through the at least one micropore.

1 77. The method of claim 1, and further comprising collecting a sample of an analyte through the at least one micropore.

16 78. The method of claim 7, and further comprising collecting a sample of an analyte through the at least one micropore.

32 79. The method of claim 46, and further comprising collecting a sample of an analyte through the at least one micropore.

REMARKS

The foregoing changes to the claims and the following remarks are submitted in an effort to place the present application in condition for allowance.

Claims 1, 2, 5-7, 21 and 46-79 are pending in this application. Claims 3, 4 and 8-20, 29, 44 and 45 have been canceled, claims 1, 5, 6, 7, 21 and 48 have been amended and claims 49-79 have been added by this Amendment.

Counsel thanks the Examiner for his courtesies extended during various telephone discussions had over the past several weeks. At the Examiner's suggestion, Counsel has amended the claims to expedite prosecution of the application towards allowance. During the telephone discussions, the Examiner indicated that claims 46 and 47 were allowable.

Claim 1 has been amended to incorporate the features of claims 3 and 4. Claim 7 has been rewritten as an independent claim. Therefore, claim 1 includes features similar to claim 47 and claim 7 includes features similar to claim 46. It is therefore believed that independent claims 1 and 7 are allowable for the same reasons that claims 46 and 47 are allowable. The other claim changes and newly added claims are made to provide a sufficient range of dependent claims to depend from each independent claim.